



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,014	02/17/2005	Takashi Takeda	Q86052	5022
23373 7590 09/10/2009 SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				
EXAMINER KOSLOW, CAROL M				
ART UNIT 1793		PAPER NUMBER		
MAIL DATE 09/10/2009		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

RECORD OF ORAL HEARING

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKASHI TAKEDA, KENJI ONO, and SUSUMU MIYAZAKI

Appeal 2009-003716
Application 10/525,014

Oral Hearing Held: Tuesday, June 9, 2009

Before CHUNG K. PAK, KAREN M. HASTINGS and MICHAEL COLAIANNI, Administrative Patent Judges

ON BEHALF OF THE APPELLANTS:

JOHN T. CALLAHAN, ESQ.
Sughrue Mion, PLLC
2100 Pennsylvania Avenue, Northwest
Washington, D.C. 20037

Sughrue Mion, PLLC

2100 Pennsylvania Avenue, Northwest

Washington, D.C. 20037

1 The above-entitled matter came on for hearing on Tuesday,
2 June 9, 2009, commencing at 9:15 a.m., at the U.S. Patent and Trademark
3 Office, 600 Dulany Street, 9th Floor, Hearing Room A, Alexandria,
4 Virginia, before Kevin Carr, Notary Public.

5 JUDGE PAK: Mr. Callahan, welcome.

6 MR. CALLAHAN: Thank you.

7 JUDGE PAK: We have a court reporter, Kevin Carr, with us
8 today. He is going to transcribe the entire hearing, and that transcript will
9 become part of the record. You have 20 minutes and you may start any time
10 you wish.

11 MR. CALLAHAN: Thank you. If I may just organize my file
12 for a second. Good morning, and may it please the Board. My name is John
13 Callahan and this is the appeal in serial number 10/525,014. The claims that
14 are pending in this application are claims 3 through 6. Claims 3, 4, and 6
15 have been allowed by the Examiner. Claim 5 has been rejected under 35
16 U.S.C. Section 102(b) as anticipated by a single reference, EP 21536. The
17 sole issue on appeal is whether the rejection of claim 5 as anticipated by EP
18 ‘536 is correct. Claim 5 of the Application recites a vacuum ultraviolet
19 radiation excited light emitting device, comprising a phosphor of a certain
20 formula. The phosphor formula is recited in claim 5.

21 And I think I can save the Board some time by pointing out that
22 referring to example 1 of the EP reference, M1 would include calcium. E
23 may be zero.

1 JUDGE PAK: Counsel, you are actually arguing that EP '536
2 teaches your invention except for the claimed vacuum ultraviolet radiation
3 excited light emitting device, am I correct?

4 MR. CALLAHAN: Yes, I believe that's correct. I think the
5 issue is whether the VUV, which is the vacuum ultraviolet radiation excited
6 light emitting device of claim 5 -- and I'm referring to that language which is
7 in the preamble as opposed to the phosphor definition -- reads on the device
8 as described by the EP reference. So I think, Judge, that is correct that that's
9 the issue on appeal.

10 JUDGE PAK: And you are relying on the phosphor handbook
11 definition for the meaning of the claimed vacuum ultraviolet radiation light
12 emitting device?

13 MR. CALLAHAN: Well that's correct, Judge. We did submit,
14 during the prosecution, a copy of certain pages from the phosphor handbook,
15 which indicates, for the claimed VUV, the wavelength range is less than
16 200 nanometers.

17 JUDGE PAK: And the Examiner is relying on other US patents
18 to show that the claimed ultraviolet radiation light emitting device includes
19 those having 254 wavelength, which is inclusive of the light emitting device
20 taught by the European patent?

21 MR. CALLAHAN: It is correct that the Examiner pointed to
22 two additional documents. I think it might be too strong to say that she
23 relied upon them. In fact she was careful I believe in her advisory action to
24 indicate that she wasn't relying upon them in the sense of relying upon them
25 in a rejection. I can point out that language for you if you'd like. But she

1 did point to two other references, which I believe in her opinion showed that
2 a low-pressure mercury lamp, which is the device that is taught by the
3 reference, in her words *emits radiation at 185 nanometers*. Now of course
4 185 nanometers is within the range that I just defined for the claimed VUV,
5 or vacuum ultraviolet radiation. But I think what needs to be appreciated
6 and unfortunately the Examiner's position in that regard came up, as I said
7 relatively late in the context of an advisory action, but I think it needs to be
8 appreciated that while a low-pressure mercury lamp may be capable of the
9 emitting radiation at 185 nanometers, the relative spectral radiation of the
10 device is quite low at that wavelength.

11 So as the reference EP 536 indicates the emission is
12 predominantly 254 nanometers. So what that means is, if I can refer to
13 something that I brought with me, it's known that the relative spectral
14 radiance of a low-pressure mercury lamp is predominantly 254 nanometers
15 and also includes emission and 185 nanometers. But the relative spectral
16 irradiance of 185 nanometers is quite low. If 254 nanometers is considered
17 1., and these charts include so-called arbitrary units, the value for the
18 emission at 185 nanometers would be approximately 0.25. If the Board
19 thought it would be helpful I could perhaps approach the Board and show
20 you this document that I brought with me. It's not part of the record.

21 JUDGE PAK: You don't need to. We decide on the record.

22 MR. CALLAHAN: Sure. Well, I think actually what you just
23 said is very important. Because I think the issue for the Board in this case in
24 order to affirm the Examiner is whether, based upon the evidence of record
25 the Board can make a factual finding that the low-pressure mercury lamp of

1 EP 536 functions in such a way whereby the luminescent screen of that
2 device is actually excited by the VUV emission at 185 nanometers. And I
3 would submit to the Board that that is not in the record. The claim as I
4 pointed out is directed to a vacuum ultraviolet radiation excited --

5 JUDGE PAK: Counsel, what about the other reference cited by
6 the Examiner providing the definition as to the meaning of the vacuum
7 ultraviolet radiation light emitting device that is inclusive of the light
8 emitting device producing 254 nanometer wavelength?

9 MR. CALLAHAN: Yeah, that's correct that she did refer to
10 those other documents. I think you are referring to the 093 publication. And
11 the text that she highlighted was *a light source for the vacuum ultraviolet*
12 *light may be selected from an Excimer lamp, a low-pressure mercury lamp,*
13 *and other various light sources.* But our position on that would be whether
14 or not the low-pressure mercury lamp in the EP reference functions as or
15 acts as the claim requires, meaning a vacuum ultraviolet excited light
16 emitting device, is a whole other question.

17 And the reason I say that is whether or not the device functions
18 in that way depends upon the characteristics of the device. For example it's
19 known in the technical literature that the 185 nanometer emission depends
20 upon, for example, whether a synthetic quartz is used as the lamp material in
21 the low-pressure mercury lamp. So our position would be that the reference
22 is lacking as to the details of the lamp itself which would enable one skilled
23 in the art to understand whether or not that device would function as a
24 vacuum ultraviolet radiation excited light emitting device. It is the case that
25 low-pressure mercury lamps have an emission that is predominantly 254

1 nanometers and also includes a low spectral irradiance emission at 185
2 nanometers. As a factual matter whether that would operate as a VUV
3 radiation excited light emitting device, I would submit to the Board is a
4 whole other question, and is entirely unclear from the Examiner's rejection.

5 JUDGE PAK: Counsel, I am referring to the US patent referred
6 to by the Examiner, which defines ultraviolet light as having a wavelength of
7 254 nanometers. That means even assuming that your argument is correct
8 that the EP patents light emitting device produces primarily an emission
9 having 254 nanometer wavelength, that according to this definition of this
10 other US patent referred to by the Examiner that the European patent device
11 is in fact your claimed device.

12 MR. CALLAHAN: I'm not sure that I heard the beginning of
13 the question but I think I understood what you were suggesting. But I think
14 it has to be recognized that depending upon the structure of the low-pressure
15 mercury lamp of the EP device it may or may not be functioning that way
16 such that the 185 nanometer emission is actually exciting the luminescent
17 material on the luminescent screen. Because it's known in the art that that
18 depends on how the lamp is constructed. Because again, as I mentioned
19 earlier, when using a synthetic quartz as a lamp material, VUV radiation at
20 185 nanometers may be emitted by the device. But that's unclear from the
21 reference. So my point is simply that the Examiner has chosen to make an
22 anticipation rejection, but I think the reference is unclear as to the totality of
23 the elements of claim five.

24 Putting aside the issue of the phosphor, I think the issue is
25 whether or not the EP reference, and in particular the low-pressure mercury

1 lamp, satisfies the limitation of a VUV radiation excited light emitting
2 device. And that's not clear from the teachings of EP 536, particularly when
3 viewed from the perspective of one having ordinary skill in the art and the
4 knowledge of what that device is. The Examiner is correct; it predominantly
5 emits radiation at 254.

6 It also includes an emission at 185. But what she failed to
7 realize and take into account is that the spectral irradiance of the 185
8 nanometer emission is very low. Which is why the reference I believe
9 would characterize the device as predominantly 254 nanometer emission.
10 So my issue with the Examiner's rejection is the lack of clarity of the
11 reference and the framework of the rejection that she's chosen to make as
12 being anticipation.

13 JUDGE PAK: Any questions? Thank you for coming.

14 MR. CALLAHAN: Okay. Thank you.

15 JUDGE PAK: The case is submitted.

16 Whereupon, at approximately 9:29 a.m., the proceedings were
17 concluded.